

A LOW I/O BANDWIDTH METHOD AND SYSTEM FOR IMPLEMENTING DETECTION AND IDENTIFICATION OF SCRAMBLING CODES

ABSTRACT OF THE DISCLOSURE

5 A system for detecting and identifying the identity of a base station or cell
which transmits a scrambling code is provided. According to one aspect of the system, the
system is used to perform scrambling code detection of eight (8) primary cells (each
scrambling code being spaced sixteen (16) chips apart) in a group. According to another
10 aspect of the system, a single scrambling code generator is used to generate a master
scrambling code. The master scrambling code is then used to create individual scrambling
codes which are used in correlation with received signals to detect in parallel which one of
the eight (8) possible primary cells in the group transmitted the received signals. According
to yet another aspect of the system, each of the correlators maintains a corresponding
15 segment of the master scrambling code. For every sixteen (16) chips, a new segment of the
master scrambling code is introduced into one of the correlators, a segment of the master
scrambling code is dropped from another correlator, and segments of the master scrambling
code are sequentially shifted or propagated through the remaining correlators; and concurrent
correlations are performed by the correlators using their respective corresponding segments
20 of the master scrambling code and newly received signals.

SF 1294105 v1